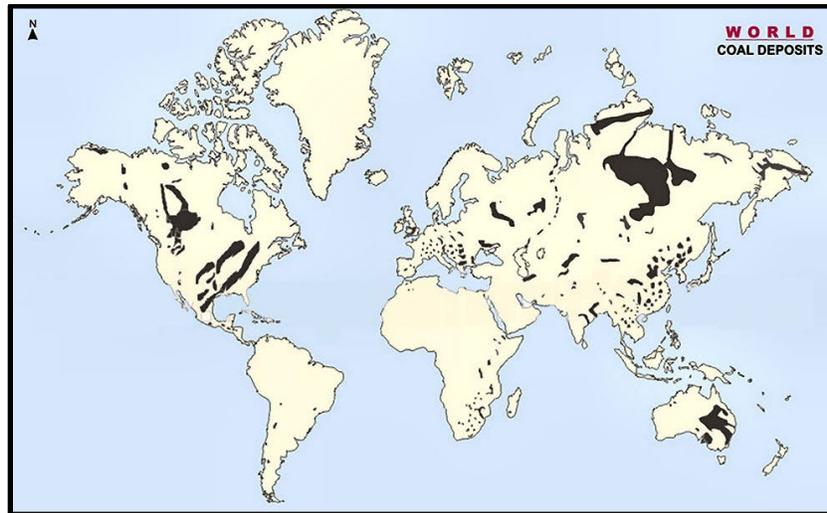




# COAL – WHERE IT’S FOUND AND WHAT IT IS (Part 1 of a Multi-Part Series)

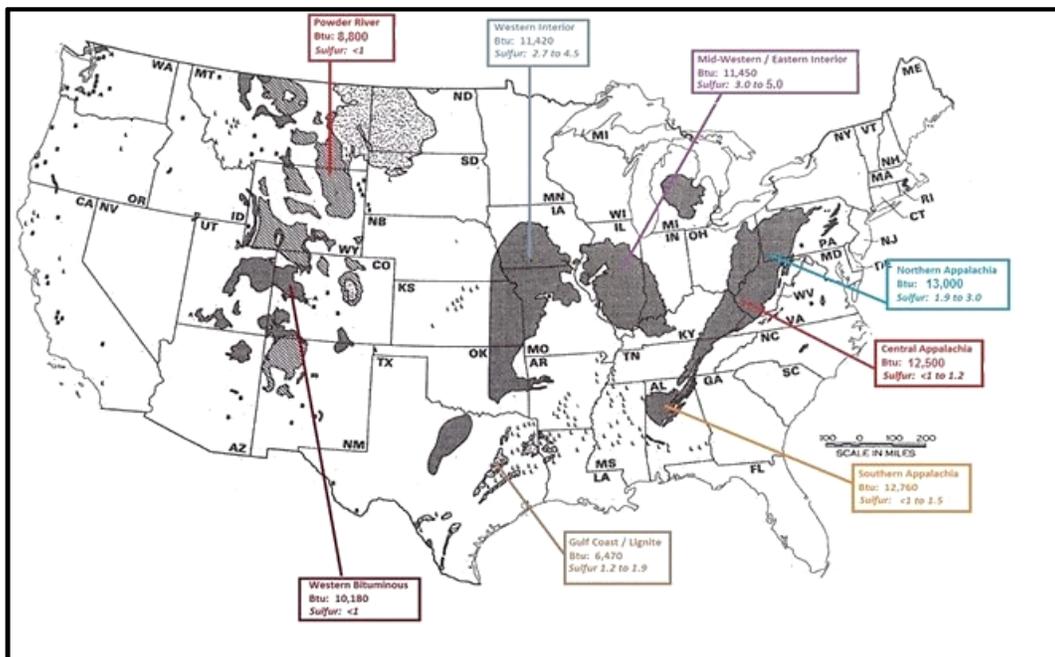
On a world-wide basis, coal is found on six of the seven continents.



Source: World Coal Association

There are four types of coal found in the United States. As with the characteristics and qualities of the four types of coal, the use or end product(s) derived from each type is just as unique.

Coal is mainly found in three large regions – the Appalachian Coal Region (WV, PA, VA, KY, and OH), the Interior Coal Region (IN and IL), and Western Coal Region (WY, CO, UT, includes the Powder River Basin of WY).



Source: West Virginia Coal Association

## Types of Coal

**Lignite** coal is the lowest rank of coal with the lowest energy content. Lignite is crumbly and has high moisture content. Lignite accounts for about 7% of U.S. coal production. While the dominant historic use of lignite coal has been for energy production, the pulverized coal generated during processing and handling can be used as a raw material for production of sorbents, pesticides, herbicides or fungicides, soil enhancement preparations, and soil supplements to fertilizers. Lignite coal is predominantly found in Texas and North Dakota.

**Subbituminous** coal has a higher heat value than lignite. Subbituminous coal typically contains 35-45% carbon, compared to 25-35% for lignite. About 44% of the coal produced in the United States is subbituminous. This type of coal is generally used for electricity generation (thermal/steam coal), due to its higher carbon content. Subbituminous coal is found in large quantities, in thick beds near the earth's surface, resulting in low mining costs and, correspondingly, lower selling prices. Wyoming produces the vast majority of subbituminous coal in the United States.

**Bituminous** coal contains 45-86% carbon and has two to three times the heating value of lignite. Geologically, bituminous coal was formed under conditions of high heat and pressure. It is the most abundant rank of coal found in the United States, historically accounting for about half of U.S. coal production. As the most abundant coal type found in the United States, bituminous coal, has historically been used predominantly as a fuel to generate electricity (thermal/steam coal). Bituminous coal is also low in sulfur and phosphorus which makes it suitable for smelting iron (coking coal or metallurgical coal). Metallurgical coal commands a higher price than other grades of bituminous coal (thermal coal) used for heating and power generation. While West Virginia is the largest producer of this type of coal, production also occurs in Kentucky, Illinois, and Pennsylvania.

**Anthracite** contains 86-97% carbon and has a heating value that is, on average, slightly higher than bituminous coal. It is very rare in the United States, accounting for less than 0.5% of the coal mined in the United States. Anthracite coal was heavily mined during the late 1800s to early 1900s. The principal use of anthracite today is for a domestic fuel in either hand-fired stoves or automatic stoker furnaces. It delivers high energy per its weight and burns cleanly with little soot, making it ideal for this purpose. Its high value makes it prohibitively expensive for power plant use.

## Metallurgical Coal

Metallurgical coal reserves are found in the Appalachian coal basin. Four states (West Virginia, Virginia, Alabama, and Pennsylvania) account for the majority of the nation's met coal production. Smaller reserves of met coal are in Kentucky, Maryland, Colorado, and Utah.

Metallurgical coal, also known as met coal, coking coal, or steelmaking coal, has the characteristics that make it ideal for heating and transforming it into coke. Currently, there is no substitute for met coal in producing new steel or for new steel in de-carbonization efforts. Steel has a critical role to play in building the U.S.'s energy infrastructure as the world transitions to a low-carbon economy. Steel is needed to build wind turbines, solar panels, tidal power systems and bioenergy infrastructure. Steel is also required in the construction of vital infrastructure components, such as bridges, rail lines, etc. Other end uses of steel made from met coal includes metals used in everything from buildings, tools, trains, airplanes, and automobiles, to cookware, cutlery, surgical tools, and medical implants.

In the coming weeks, Part 2 of the "Coal – Where It's Found and What It Is" series will focus on Thermal/Steam Coal and other end uses of coal.

### About WMC

WMC is a grassroots organization with over 200 members nationwide. Our members work in all sectors of the mining industry including hardrock and industrial minerals, coal, energy generation, manufacturing, transportation, and service industries. We hold annual Washington, D.C. Fly-Ins to meet with members of Congress and their staff, and federal land management and regulatory agencies to discuss issues of importance to both the hardrock and coal mining sectors. For more information about WMC, visit our website at [www.wmc-usa.org](http://www.wmc-usa.org).